

CLAIMS

1. A manual toothbrush (1) with a handle (2) and a toothbrush head (3) that is mounted on the front end (5) of the handle (2), wherein bristle clusters (8) respectively extend from the lateral edge regions of the surface (6) on the brushing side of the toothbrush head, wherein the free ends of said bristle clusters only converge to such a degree that they form a receptacle space (19) for the teeth and at least two sides of one or more tooth/teeth can be simultaneously cleaned during the brushing process, and wherein a pivot bearing (22) for pivoting the toothbrush head (3) relative to the handle (2) during the brushing process is arranged between the toothbrush head (3) and the handle (2),

characterized in

that the bearing (22) is also provided with a spring element (26) that is arranged between the toothbrush head (3) and the handle (2) such that the spring element (26) is elastically prestressed when the toothbrush head (3) is pivoted during the brushing process, namely in such a way that the toothbrush head (3) can be moved back into its home position after the brushing process.

2. The manual toothbrush according to Claim 1,

characterized in

that the pivoting axis (6) of the bearing (22) extends transverse or angled to the longitudinal axis (9) of the handle (2).

3. The manual toothbrush according to Claim 1,

characterized in

that the pivoting range of the toothbrush head (3) relative to the longitudinal axis (9) is smaller than 30°, preferably 20°.

4. The manual toothbrush according to Claim 1,
characterized in
that the toothbrush head (3) features bristle clusters (8) that are arranged such that the inside and the outside of the teeth can be simultaneously brushed.
5. The manual toothbrush according to Claim 1,
characterized in
that a bristle section (14) also protrudes from the bottom of the receptacle space (19) on the surface (6) on the brushing side of the toothbrush head (3).
6. The manual toothbrush according to Claim 5,
characterized in
that a bristle cluster section (20) protrudes centrally referred to the receptacle space (19) from the free front end of the toothbrush head (3), wherein said bristle cluster section protrudes over the bristle section (14) situated on the bottom of the receptacle space (19).
7. The manual toothbrush according to Claim 6,
characterized in
that the surface (6) on the brushing side essentially has a concave shape, in that the surface (6) on the brushing side extends, if viewed in the form for a top view, transverse to the longitudinal direction of the handle (9), and in that the front bristle cluster section (14) is arranged on an extension (17) that centrally adjoins the front end of the toothbrush head (3).

8. The manual toothbrush according to Claim 1,
characterized in
that the receptacle space (19) is open toward the end of the handle (2) that lies farther from the toothbrush head.
9. The manual toothbrush according to Claim 1,
characterized in
that the bearing is formed by a pin (23) the engages into a receptacle opening (30) arranged on the handle (2) or on the rear side (21) of the toothbrush head (3), in that one end of the spring element (26) is fixed on the toothbrush head (3) or on the handle (2), and in that the other end of the spring element (26) is respectively supported on the handle (2) or on the toothbrush head (3) by stopping elements (28, 29) arranged to both sides of the spring element (26).
10. The manual toothbrush according to Claim 9,
characterized in
that the pin (23) penetrates the bore (30) in the handle (2), and in that the free end of the pin (23) is stationarily held on the handle (2) due to a plastic deformation in order to rotatably mount the toothbrush head (3) on the handle (2).
11. The manual toothbrush according to Claim 9,
characterized in
that the spring element (26) consists of a leaf spring or a rod spring.
12. The manual toothbrush according to Claim 9,
characterized in
that the spring element (26) is realized in a U-shaped fashion and formed by a crosspiece (37)

that connects two limbs (32, 33) to one another, in that a guide arbor (25) engages between the limbs (32, 33) on the crosspiece (37), in that the pin (23) penetrates the limbs (32, 33) at a distance from the guide arbor (25), and in that the stopping elements (28, 29) engage into the limbs (32, 33) on the free end.

13. The manual toothbrush according to Claim 12,
characterized in
that the stopping elements (28, 29) are formed by a projection.
14. The manual toothbrush according to Claim 11,
characterized in
that the leaf spring or rod spring (26) essentially extends linearly, and in that one end is fixed in the handle (2) and the other end is fixed in the toothbrush head (3).
15. The manual toothbrush according to Claim 11,
characterized in
that the leaf spring or rod spring (26) essentially extends linearly, in that one end is braced in the handle and the other end is braced in an intermediate carrier (50), and in that the intermediate carrier (50) serves as a carrier for the toothbrush head (3) that can be fixed thereon (50).
16. The manual toothbrush according to Claim 9,
characterized in
that the spring element (26) consists of a coil spring.
17. The manual toothbrush according to Claim 9,
characterized in

that the spring element (26) consists of one or more elastomers (55, 56 or 61, 62, 63, 64 or 70) made of plastic.

18. The manual toothbrush according to Claim 17,
characterized in

that the pin (23) as well as the stopping element (27) engage into a recess (57) arranged on the handle (2), and in that one respective spring element (55, 56) is fixed in the recess (57) on the handle (2) to both sides of the stopping element (27).

19. The manual toothbrush according to Claim 17,
characterized in

that the pin (23) and the stopping element (27) engage into a recess (65) arranged on the handle (2), in that the stopping element (27) extends radially outward from both sides of the pin (23), and in that projections (66, 67) extend radially inward perpendicular to the stopping element (27) on both sides from the recess (65) to the vicinity of the pin (23), wherein a total of four spring elements (61, 62, 63, 64) are arranged between said projections and the stopping element (27).

20. The manual toothbrush according to Claim 1,
characterized in

that the spring element (26) consists of an elastomer that connects the toothbrush head (3) to the handle (2).

21. The manual toothbrush according to Claim 20,
characterized in

that the spring element (26) is realized in a sleeve-shaped fashion, in that the spring element is rigidly injection-moulded on the rear side (21)

of the toothbrush head (3) as well as on the surface (4) of the handle, and in that a journal (68) extends from the rear side (21) within the spring element (26) and is supported on the surface (4).

22. The manual toothbrush according to Claim 21,
characterized in
that the journal (21) engages into a blind bore (69) arranged on the handle (2).